

REMARKS

Claims 14-24 are pending in this application. By this Amendment, claims 14-24 are amended and claims 25 and 26 are canceled. Support for the amendments to the claims may be found, for example, in the original claims and throughout the specification, such as, page 4, line 25 on to page 5, line 14, and page 5 line 23 on to page 6 line 10. No new matter is added. In view of the foregoing amendments and the following remarks, reconsideration and allowance are respectfully requested.

I. Allowable Subject Matter

Applicants thank the Examiner for the indication that claim 23 contains allowable subject matter if rewritten in independent form including all of the limitations of the base claim and any intervening claims. By this Amendment, claim 23 is amended to be in independent form and claim 24 is amended to depend from claim 23.

II. Rejection Under 35 U.S.C. §102(b)

The Office Action rejects claims 14-15, 17-18, 20-22 and 24-26 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0132394 to Ku et al. (hereinafter "Ku"). By this Amendment, claims 25 and 26 are canceled, rendering their rejection moot. As to the remaining claims, Applicants respectfully traverse the rejection.

A. Claims 14-15, 17-18, 20, 21

Ku does not expressly or inherently describe the method for delineating a conducting element disposed on an insulating layer of claim 14. Ku is directed to the use of a passivating layer which can be formed by thermal oxidation of a conductive layer and then patterned to form "spacers" that are resistant to removal by a subsequent etching step. See Ku, paragraphs [0043] and [0046] and Figure 5.

Claim 14 recites:

depositing a conducting layer on the front face of the insulating layer disposed on a substrate,
forming a mask on at least one area of the conducting layer designed to form the conducting element, so as to delineate in the conducting layer at least one complementary area not covered by the mask,
introducing oxygen to the complementary areas of the conducting layer, and
oxidizing the complementary areas of the conducting layer, to form a volatile oxide from the material of the conducting layer and oxygen, wherein the complementary areas of the conducting layer are rendered insulating by oxidation and evaporate at least partly.

(emphasis added). The complementary areas of the fabricated gate in Ku are not rendered insulating by oxidation and do not evaporate at least partly.

Passivating layer 24 of Ku is patterned by an etching process in order to form spacers that are resistant to removal by a subsequent etching step. See Ku, paragraphs [0042] and [0043], reproduced below for convenience.

[0042] Following the above-mentioned partial etching of the conductive layer, passivating layer 24 is formed at least on substantially vertical sidewalls 22 of the previously formed conductive feature 20. In some embodiments of the present invention, the passivating layer may also be formed on thinned conductive layer 15. The structure including passivating layer 24 on substantially vertical sidewalls 22 and the horizontal surface of thinned conductive layer 15 is shown, for example, in FIG. 4.

[0043] The passivating layer employed in the present invention includes any insulating material that is resistant to removal by a subsequent etching step of the present invention. Illustrative examples of such passivating layers include, but are not limited to: oxides, nitrides, oxynitrides and mixtures or multilayers thereof. The thickness of the passivating layer may vary depending on the type of insulating material employed as well as the process that is employed in forming the same. Typically, the thickness of the passivating layer is from about 2.0 to about 15 nm, with a thickness of from about 3.0 to about 5.0 nm being more highly preferred.

As indicated above, Ku states that passivating layer 24 is thin, between 2 and 15nm, which is thinner than the height of conductive layer 14 (between 20 and 400nm, see paragraph [0031]).

As illustrated in Figures 4 and 5, the portion of the conductive layer disposed under the passivating layer is not modified, thus, it is not "rendered insulating by oxidation," as required by claim 14.

Additionally, Ku states that "the anisotropic etching process partially removes the conductive layer not protected by mask 16." See Ku, paragraph [0040]. Thus, instead of "wherein the conducting layer rendered insulating by oxidation evaporates at least partly," as required by claim 14, the conductive layer is delineated, i.e., patterned, to form conductive feature 20. Furthermore, after forming spacers from passivating layer 24, Ku states that "the next step comprises an isotropic etching process that removes the remaining thinned conductive layer not protected by the mask exposing a lower portion of the conductive feature not containing the passivating layer." See Ku, paragraph [0047]. Thus, the conductive layer is patterned by an etching process by means of mask 16 to form conductive feature 20 and not by "the conducting layer rendered insulating by oxidation" evaporating "at least partly," as required by claim 14 (emphasis added).

Next, Ku does not teach that the passivating layer is an oxide which can be volatile. In fact, Ku uses the passivating layer to form spacers, which seems to prohibit volatile oxides. Additionally, Ku indicates that the passivating layer is resistant to removal by subsequent process steps. See Ku, paragraph [0043]. Thus, Ku does not teach "a volatile oxide from the material of the conducting layer and the oxygen arising from oxidation," as required by claim 14.

Therefore, Ku does not expressly or inherently describe each and every feature of claim 14 and, thus, does not anticipate the claim. Claims 15, 17-18, 20, and 21 depend from claim 14 and, thus, also are not anticipated by Ku. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Claim 22

Claim 22 is not anticipated by Ku for at least the reasons discussed above in regard to claims 14-15, 17-18, 20, and 21 and also because Ku does not describe conductive layer having more than a single layer.

Claim 22 requires "the conducting layer comprises a first step of deposition of a first conducting layer and a second step of deposition of a second conducting layer on the front face of the first conducting layer." Ku does not teach such a feature. Instead, the conductive layer of Ku is a single layer (14). See Ku, Figures 1-6. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Claim 24

By this Amendment, claim 24 has been amended to depend from allowable claim 23. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Rejections Under 35 U.S.C. §103(a)

A. Claim 16

The Office Action rejects claim 16 under 35 U.S.C. §103(a) as being unpatentable over Ku and U.S. Patent No. 6,451,657 to Gardner (hereinafter "Gardner"). Applicant respectfully traverses the rejection.

As discussed above, Ku does not disclose all the features of claim 14. Despite its asserted teachings, Gardner does not cure the deficiencies of Ku with respect to claim 14. Therefore, Ku and Gardner, considered either separately or combined, fail to teach or suggest all of the features of claim 14.

Claim 14 would not have been rendered obvious by Ku and Gardner. Claim 16 depends from claim 14 and, thus, also would not have been rendered obvious by Ku and Gardner. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Claim 19

The Office Action rejects claim 19 under 35 U.S.C. §103(a) as being unpatentable over Ku and JP 2002-134544 to Yoshimichi (hereinafter "Yoshimichi").

As discussed above, Ku does not disclose all the features of claim 14. Despite its asserted teachings, Yoshimichi does not cure the deficiencies of Ku with respect to claim 14. Therefore, Ku and Yoshimichi, considered either separately or combined, fail to teach or suggest all of the features of claim 14.

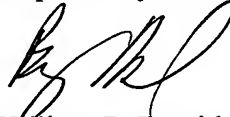
Claim 14 would not have been rendered obvious by Ku and Yoshimichi. Claim 19 depends from claim 14, thus, also would not have been rendered obvious by Ku and Yoshimichi. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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